

feature, the occlusion priority of the camera-motion layers can be adjusted. As an example, a corporate logo can be placed in a video sequence as a camera-motion layer. If the order parameter for the corporate logo is set to be always above all other layers, the corporate logo will never appear in the composite video sequence to be occluded by other objects. If the order parameter for the corporate logo is set to be above all camera-motion layers but below all fixed-frame layers, the corporate logo will appear in the composite video sequence only to be occluded by moving objects, such as people or cars.

[86] In block 43, a camera-motion layer is deleted. As an example, if a corporate logo is represented as a camera-motion layer, and if the corporate logo is no longer desired for the video sequence, the camera-motion layer can be deleted, and the composite modified video sequence will not include the corporate logo.

[87] In block 44, another camera-motion layer is added. The additional camera-motion layer can use the same camera motion parameters as the original camera-motion layers or can use different camera motion parameters. With this feature, an overlay can be inserted in the composite modified video sequence that tracks the apparent motion of the world. Adding camera-motion layers provides the ability to insert in the video sequence objects that move with the motion of the camera. This is accomplished by associating the camera motion parameters of the video sequence with the added camera-motion layers.

[88] As an example, an advertising banner can be inserted as an additional camera-motion layer. Via the camera motion parameters, the advertising banner appears in the composite modified video sequence to recede in the distance as the camera zooms out or to grow larger as the camera zooms in. As another example, the effect of viewing a scene from a jail cell can be accomplished by adding an additional camera-motion layer of vertical bars in the window

of the jail cell and setting the order parameter of the additional camera-motion layer to be above all other layers. As the camera pans in the composite modified video sequence, the bars will appear likewise to pan and occlude the remaining camera-motion layers and the fixed-framed layers.

5 [89] In block 45, the size of a camera-motion layer is modified. By modifying the size of a camera-motion layer, additional camera motion parameters can be accommodated. For example, if it is desired to pan beyond the original camera-motion layer, the original camera-motion layer can be extended by extrapolating the camera-motion layer to accommodate the desired panning.

10 [90] In block 46, one or more camera motion parameters of a camera-motion layer are edited to obtain modified camera motion parameters. The camera motion parameters can be edited by, for example, adjusting one or more of the camera motion parameters (e.g., pan or tilt). As another example, the camera motion parameters can be edited by replacing them entirely with analytically-derived camera motion parameters or with camera motion parameters from another
15 video sequence.

[91] Figure 5 illustrates a flow diagram for editing an original fixed-frame layer in block 14 of Figure 2. Blocks 51-56 in Figure 5 are the same as blocks 21-26 in Figure 3, except the operations are performed to an original fixed-frame layer, instead of an original camera-motion layer.

20 [92] Figure 6 illustrates various aspects of editing an original fixed-frame layer in block 14 of Figure 2 and in block 54 of Figure 5. Blocks 61-75 are the same as block 31-45 in Figure 4, except the operations are performed to fixed-frame layers instead of camera-motion layers.

[93] Further, block 76 is different than block 46 in Figure 4. In block 76, camera motion parameters are added to a fixed-frame layer. The camera motion parameters can be the same as or different from the camera motion parameters of the original camera-motion layers. With this edit, the fixed-frame layer becomes a camera-motion layer and can be further edited as discussed with respect to Figure 4. As an example, an original fixed-frame layer of a person walking in a parking lot can be assigned camera motion parameters, and the original camera-motion layer for the parking lot can be replaced, as in block 34, with a scene of a beach. Further, by selecting the camera motion parameters for the edited fixed-frame layer of the person walking, another camera angle of the person walking can be obtained for the composite modified video sequence.

[94] Figure 7 illustrates a plan view for a system implementation of the invention. The computer system 81 includes a computer 82 for implementing the invention. The computer 82 includes a computer-readable medium 83 embodying software for implementing the invention and/or software to operate the computer 82 in accordance with the invention. A video sequence for use with the computer system 81 resides on the computer-readable medium 83 or is provided via a connection 84. The connection 84 can receive, for example, a live feed video or a computer-readable file containing a video sequence. The connection 84 can be coupled to, for example, a video camera, another computer-readable medium, or a network. As an example, the computer system 81 can implement or be part of a web site that is accessible via a network (e.g., the Internet), and an original video sequence can be modified in accordance with the invention by a user accessing the computer system 81 via the network.

[95] The invention can be embodied as a video coloring book. A video coloring book can be contrasted with a conventional coloring book. A conventional coloring book has line-